

EXHIBIT C

Resume

of [Philip Greenspun](#); updated February 2018

Summary:

- Business experience: started six companies and buried three. As CEO, grew an open-source enterprise software company to \$20 million annual revenue in two years with \$10,000 in capital.
- Software product development experience: 20 years. Have had the same email address since 1976: philg@mit.edu. Have been developing open source software since 1982. List of engineering projects completed is available from <http://philip.greenspun.com/personal/resume-list>
- Pedagogy experience: Co-developed "[Software Engineering for Internet Applications](#)" with Hal Abelson at MIT; it has been a successful course at MIT and is being used by computer science departments at 10 other universities around the world. Re-developed 16.687 for the MIT Department of Aeronautics and Astronautics. Co-developed the RDBMS materials for a Harvard Medical School course on computational medicine.
- Non-profit experience: Started a 501c3 foundation in December 1998. The Foundation operated a prize program for high-school age Web developers and a one-year post-baccalaureate program in computer science; the annual budget was approximately \$1.5 million.
- Political experience: Testified before the U.S. Senate Commerce Committee and the Subcommittee on Patents, Copyrights and Trademarks of the Senate Judiciary Committee
- Writing experience: four computer science textbooks, one book about North America and its people, numerous journal and magazine articles.
- Photography experience: started [photo.net](#) in 1993, an online community for photographers. Work published in dozens of print magazines and books and used for advertising (see [separate photo resume](#)).
- Aviation experience: holder of Airline Transport Pilot certificate with multi-engine, single-engine seaplane, and helicopter ratings; holder of flight instructor certificate with instrument and helicopter ratings; have flown single-engine aircraft to Alaska (twice) and just about everywhere else in North America and the Caribbean; have flown three coast-to-coast trips in Robinson helicopters; flew the Canadair Regional Jet out of JFK for a subsidiary of a major airline
- Education: three MIT degrees (including a Ph.D., but you can't call me "Dr. Greenspun" because my brother is a real doctor).

Employment Experience

2018-present: Harvard University

Develop curricular materials for medical students and post-doc researchers learning how to query a 12 TB insurance claims database. Assist student groups with their analytics projects in SQL and R.

2013-present: Fifth Chance Media LLC

I develop software, write, photograph, and create videos for this publishing company whose current products are listed at fifthchance.com. Through Fifth Chance Media LLC I also work as a [software expert witness](#), especially in cases regarding [Internet software patents](#). I have also served as an [aviation expert witness](#), testifying in front of a Federal Court jury, and as a [relational database expert witness](#).

1997-present: various advisory and corporate boards

Serve as an independent member of various advisory and corporate boards, mostly for technology companies. Example: Joined corporate board of MIT materials science spin-off in late 2005 during \$550,000 seed capital phase. Stepped down when company secured \$10 million in venture capital in mid-2007.

1991-present: Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology.

Teach and expand the MIT computer science curriculum, conduct research, and supervise student research.

1993-2000; 2006-2007: photo.net

Started, programmed, financed, and managed this online learning community as a personal hobby. Spun it off in 2000 to a team of entrepreneurs who attempted to make it a profitable business. Took it back over in mid-2006 to clean up the content, software, and balance sheet (crippled with debt). With 600,000 registered users and 60 million page views per month, sold the company in April 2007 to NameMedia.

1997 through March 2000: ArsDigita Corporation

Started, financed, and managed this company, which developed an open-source toolkit for building collaborative Internet applications. Grew the company profitably from 5 part-time people to 80 full-timers and revenue of \$20 million per year. Between January and March 2000, negotiated and closed a \$38 million venture capital investment from Greylock and General Atlantic Partners. Handed over the reins to a team of professional managers brought in by the venture capitalists.

February 1988 through August 1990: IsoSonics Corporation

Founded company to develop a product that stored digital data with consumer video recorders. Co-designed custom digital signal processor. Developed simulation environment, complete simulator for digital audio recorder (1.4 Mbits/second), microcode compiler on the Symbolics Lisp Machine. Used Lisp tools to develop error correction microcode and refine DSP architecture. Co-designed three phase locked loops. With partners, developed system for auditing television broadcasts nationwide by monitoring commercials and compiling reports for advertisers. We designed a single board that tunes a chosen channel, recognizes tagged advertisements and makes a record for each ad of time of

broadcast, number of fields, video quality and color burst presence. Served as president of IsoSonics from its inception until its dissolution.

April 1986 through November 1989: ConSolve Incorporated

Co-founded this construction automation company. With partner, developed initial product, obtained financing (from PaineWebber Ventures), hired software development, marketing and support staff, established R&D partnership with Tektronix, obtained government contracts and sold software. Was active participant in all important planning, legal, and management activities. Wrote every line of code in the first system shipped to a customer (Caterpillar).

November 1984 through August 1985: ICAD, Inc.

Co-founded company with three partners. With Patrick O'Keefe, developed Lisp software to automate mechanical engineering. The ICAD System was initially primarily intended for large steel structures, e.g., air-cooled heat exchangers, offshore oil rigs, coal-fired power plants, but has been extended to many general ME problems.

Company went public in January 1995 as Concentra with a market valuation of \$50 million and was subsequently acquired by Oracle Corporation.

June 1983 through November 1984: Symbolics, Inc.

Developed VLSI tools, including automatic layout functions and worked on the system architecture for the Ivory microprocessor (the base of all Symbolics products sold in the late 1980s). Wrote parts of the Symbolics operating system.

June 1982 through June 1983: Hewlett-Packard Labs

Wrote packet-switched network simulation software on Symbolics Lisp Machine. Helped architect, simulate and design prototype of HP's Precision Architecture RISC computer. The prototype took two man-years to complete and ran at VAX 11/780 speed in June 1983. This architecture became the basis of HP's computer product line for 15 years and then became the basis for the 64-bit generation of Intel processors.

1978 to 1982

Paid tuition and living expenses through MIT with employment and contract work for Wang Laboratories, Verbex Corporation, National Aeronautics and Space Administration, and other organizations.

Education (Massachusetts Institute of Technology)

Ph.D. 1999 in electrical engineering and computer science. Thesis title: *Architecture and Implementation of Online Communities*.

S.M. 1993 in electrical engineering and computer science. Thesis title: *Site Controller: A system for computer-aided civil engineering and construction*.

S.B. 1982 in mathematics. Completed coursework for electrical engineering S.B. with emphasis on digital systems and signal processing. Took undergraduate and graduate computer science courses, with an emphasis on algorithms. Took graduate courses in microeconomics and neurophysiology.

Selected Technical Publications

[*Software Engineering for Internet Applications*](#) (online and MIT Press 2006), [*Philip and Alex's Guide to Web Publishing*](#) (Morgan Kaufmann; 1999), [*Database Backed Web Sites*](#) (Ziff Davis Press; 1997), [*Travels with Samantha*](#), a book about North America; [SITE CONTROLLER: A system for computer-aided civil engineering and construction](#); numerous journal articles; dozens of magazine articles. United States patents [5,172,363](#) (digital audio recorder circuit), [5,150,310](#) (location system), and [5,964,298](#) (computer-aided earthmoving system).

Most of my relevant publications are linked from philip.greenspun.com or fifthchance.com.

Personal

Birthdate: September 28, 1963. Some familiarity with French, Italian, and German.

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